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EXAMINER	
ZHONG, CHAD	
ART UNIT	**PAPER NUMBER**
2152	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/975,522	PEIFFER ET AL.	
	Examiner	Art Unit	
	Chad Zhong	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-18 and 20-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-18 and 20-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

OFFICE ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/15/2005 has been entered. Claims 1-8, 10-18, and 20-25 are presented for examination. In amendment B, filed on 11/15/2005, claims 1-6, 10-12, 17-18, 21-22, and 24 are currently amended; claims 7-8, 13-16, 20, 23, and 25 are previously presented.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-25 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-26 of copending Application No. 09-882375. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

09-975522 Instant Application	**09-882375 Co-pending Application**
1. a computer networking device for use on a computer network connecting a plurality of clients with a server the clients and server system being configured to communicate using Hypertext Transfer Protocol (HTTP), the computer networking device comprising: an HTTP multiplexor / demultiplexor configured to receive HTTP requests from the plurality of the clients via a plurality of client TCP connections and to monitor a plurality of server TCP connections to the server, wherein the HTTP multiplexor / demultiplexor includes a plurality of agents, each agent assigned	1. a computer networking device for use on a computer network connecting a client and a server, the client and server client being configured to communicate using Hypertext Transfer Protocol (HTTP), the computer networking device comprising, an HTTP multiplexor/demultiplexor configured to receive HTTP requests from the client and to distribute those requests over a plurality of TCP connections to a plurality of corresponding sockets on the server.

to a different one of the client TCP connections, and wherein upon receiving an HTTP request from the client, the respective agent selects one of the plurality of server TCP connections based on the monitoring of the server TCP connections and routes the HTTP request to the selected server TCP connection for communication to the server over a corresponding connection on the server as a multiplexed HTTP request.	

Co-pending application anticipates all limitations in claim 1 of the instant application, the plurality of TCP connections anticipates an individual TCP connection to a server socket. As for plurality of clients connecting with a server system, Susai et al. (hereinafter Susai), US 2002/0059428 discloses a plurality of clients connecting with a singular server farm for the advantages of data access and efficiency through load balancing. Thus it would have been obvious to implement the instant application in view of Co-pending application and Susai.

09-975522 **Instant Application**	**09-882375** **Co-pending Application**
2. The computer networking device of claim 1, wherein the multiplexor/demultiplexor is further configured to receive HTTP responses from the server over the individual server TCP connection and to route those responses to the clients via a	2. The computer networking device of claim 1, wherein the multiplexor/demultiplexor is further configured to receive HTTP responses from the server over a plurality of TCP connections and to route those responses to the

plurality of client TCP connections.	client via a single TCP connection.

Co-pending application anticipates all limitations of claim 2 of the instant application, as for plurality of clients connecting with a server system, Susai discloses a plurality of clients connecting with a singular server farm for the advantages of data access and efficiency through load balancing, and the corresponding results are routed back to the appropriate originating client, see for example, [0034-0035]. Thus it would have been obvious to implement the instant application in view of Co-pending application and Susai.

09-975522 **Instant Application**	**09-882375** **Co-pending Application**
3. A computer networking method for processing HTTP requests, comprising: monitoring a plurality of sockets connections from a computer networking device to a server to determine a response parameter for each of the server TCP connections; receiving HTTP requests from a plurality of originating clients; selecting one of the server TCP connections based on the determined response parameter; routing the HTTP requests to an individual socket on the server via a multiplexed TCP transmission using the selected server TCP connection.	3. A computer networking method for processing HTTP requests, comprising: receiving a series of HTTP requests from an originating client; and routing the series of requests to a plurality of sockets on a server via a plurality of TCP connections.

Co-pending application anticipates all limitations of claim 3 of the instant application, as for plurality of clients connecting with a server system, Susai discloses a plurality of clients connecting with a singular

server farm for the advantages of data access and efficiency through load balancing, and the corresponding results are routed back to the appropriate originating client. Thus it would have been obvious to implement the instant application in view of Co-pending application and Susai.

09-975522 Instant Application	09-882375 Co-pending Application
4. The method of claim 3, wherein the response parameter is selected from the group consisting of least-lengthy response time, last-accessed socket, fewest number of unfulfilled requests, type of requested data, and size of requested data.	4. The method of claim 3, wherein the requests are routed based on a parameter selected from the group consisting of least-lengthy response time, last accessed socket, fewest number of unfulfilled requests, type of requested data, and size of requested data.

Co-pending application anticipates all limitations of claim 4 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application
5. The method of claim 3, further comprising: receiving HTTP responses from the server via the individual server TCP connection; and selectively routing the HTTP responses to the **plurality of originating clients**.	5. The method of claim 3, further comprising: receiving HTTP responses over a plurality of connections from the server; and routing the responses to the originating client.

Co-pending application anticipates all limitations of claim 5 of the instant application, the plurality of TCP connections anticipates an individual TCP connection to a server socket. As for plurality of clients connecting with a server system, Susai discloses a plurality of clients connecting with a singular server farm for the advantages of data access and efficiency through load balancing, and the corresponding

results are routed back to the appropriate originating client. Thus it would have been obvious to implement the instant application in view of Co-pending application and Susai.

09-975522 Instant Application	09-882375 Co-pending Application
6. A computer networking method for data transfer between **plural originating clients**, a server, and a networking device positioned on a computer network intermediate the clients and the server, the method comprising: at the networking device, monitoring a plurality of server TCP connections from a computer networking device to a server to determine a response parameter for each of the server TCP connections; listening for HTTP requests from the originating clients; receiving HTTP requests from more than one of the originating clients; selecting one of the server TCP connections based on the determined response parameter; **multiplexing** the received requests for delivery to the server via the selected server TCP connection; and sending the received requests via the selected server TCP connection to an optimal server socket selected based on the determined	6. A computer networking method for data transfer between an originating client, a server, and a networking device positioned intermediate the client and the server on a computer network, the method comprising: at the networking device, listening for a series of HTTP requests from the originating client; receiving the series of HTTP requests from the originating client; demultiplexing the series of HTTP requests into discrete HTTP requests; and sending each discrete HTTP request to an optimal server socket.

response parameter.	

Co-pending application anticipates all limitations of claim 6 of the instant application, the plurality of TCP connections anticipates an individual TCP connection to a server socket. As for plurality of clients connecting with a server system, Susai discloses a plurality of clients connecting with a singular server farm for the advantages of data access and efficiency through load balancing, and the corresponding results are routed back to the appropriate originating client. Multiplexing is realized in Sridhar et al. US 6,266,701, hereinafter (Sridhar), wherein the plurality of requests are multiplexed together to reduce overhead thereby reducing latency (see for example, Col. 5, lines 15-20). Thus it would have been obvious to implement the instant application in view of Co-pending application, Susai, and Sridhar.

09-975522 Instant Application	09-882375 Co-pending Application
7. The method of claim 6, wherein receiving HTTP requests from the originating clients occurs via client TCP connections.	7. The method of claim 6, wherein receiving and sending occur via TCP connections.

Co-pending application anticipates all limitations of claim 7 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application
8. The method of claim 7, wherein the client and server TCP connections are persistent.	8. The method of claim 7, wherein the TCP connections are persistent.

Co-pending application anticipates all limitations of claim 8 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application

10. The method of claim 9, wherein the response parameter comprises a least-lengthy response time.	10. The method of claim 9, wherein determining an optimal server socket includes determining a server socket with a least-lengthy response time.

Co-pending application anticipates all limitations of claim 10 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application
11. The method of claim 9, wherein the response parameter comprises a last-accessed server socket.	11. The method of claim 9, wherein determining an optimal server socket includes determining a last-accessed server socket.

Co-pending application anticipates all limitations of claim 11 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application
12. The method of claim 9, wherein the response parameter comprises the fewest number of unfulfilled requests.	12. The method of claim 9, wherein determining an optimal server socket includes determining a server socket with the fewest number of unfulfilled requests.

Co-pending application anticipates all limitations of claim 12 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application
13. The method of claim 6, further comprising listening for HTTP responses from the optimal	13. The method of claim 6, further comprising, listening for HTTP responses from a plurality

server socket.	of server sockets.

Co-pending application anticipates all limitations of claim 13 of the instant application, wherein the optimal server socket is one of a plurality of server sockets.

09-975522 Instant Application	09-882375 Co-pending Application
14. the method of claim 13, further comprising receiving HTTP responses from the optimal server socket.	14. The method of claim 13, further comprising, receiving the HTTP responses from the plurality of server sockets.

Co-pending application anticipates all limitations of claim 14 of the instant application, wherein the optimal server socket is one of a plurality of server sockets.

09-975522 Instant Application	09-882375 Co-pending Application
15. The method of claim 14, further comprising **demultiplexing** the received HTTP responses to permit selective routing and transmission of the received responses to corresponding originating clients.	15. The method of claim 14, further comprising, multiplexing the HTTP responses from the plurality of server sockets into a series of HTTP responses.

demultiplexing is realized in Sridhar wherein appropriate response is routed to the corresponding clients (see for example, Col. 6, lines 5-15 for the advantage of proper routing). Thus it would have been obvious to implement the instant application in view of Co-pending application and Sridhar.

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16. The method of claim 15, further comprising sending the HTTP responses to the corresponding originating clients.	16. The method of claim 15, further comprising, sending the series of HTTP responses to the originating client.

Co-pending application anticipates all limitations of claim 16 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application
17. A computer networking method for data transfer between **plural originating clients**, a server and an intermediate networking device, wherein the originating clients and the server are configured to communicate over a computer network via the intermediate networking device, the method comprising: at the intermediate networking device, monitoring a plurality of server TCP connections from the intermediate networking device to the server to determine a response parameter for each of the server TCP connections; listening for HTTP requests from the originating clients; receiving HTTP requests from more than one of the originating clients; **multiplexing** the received requests; determining an optimal server socket based on the determined response parameter; sending the received	17. A computer networking method for data transfer between an originating client, a server, and an intermediate networking device, wherein the originating client and the server are configured to communicate over a computer network via the intermediate networking device, the method comprising: at the intermediate networking device, listening for a series of HTTP requests from the originating client; receiving the series of HTTP requests from the originating client; demultiplexing the series of HTTP requests into discrete HTTP requests; determining an optimal server socket for each discrete HTTP request; sending each discrete HTTP request to the optimal server socket for the request; listening for HTTP responses from a plurality

requests as a multiplexed transmission to the optimal server socket via an individual one of the server TCP connections; listening for HTTP responses from the server; receiving HTTP responses from the server; **demultiplexing** the HTTP responses received from the server to permit selective routing and transmission to corresponding originating clients; and sending the received HTTP responses to the corresponding originating clients.	of server sockets; receiving the HTTP responses from the plurality of server sockets; multiplexing the HTTP responses from the plurality of server sockets into a series of HTTP responses; and sending the series of HTTP responses to the originating client.

Co-pending application anticipates all limitations of claim 17 of the instant application, the plurality of TCP connections anticipates an individual TCP connection to a server socket. As for plurality of clients connecting with a server system, Susai discloses a plurality of clients connecting with a singular server farm for the advantages of data access and efficiency through load balancing, and the corresponding results are routed back to the appropriate originating client. Multiplexing and demultiplexing is realized in Sridhar, wherein the plurality of requests are multiplexed together to reduce overhead thereby reducing latency (see for example, Col. 5, lines 15-20), similarly the demultiplexing is realized as server send responses to corresponding clients. Thus it would have been obvious to implement the instant application in view of Co-pending application, Susai, and Sridhar.

09-975522 **Instant Application**	**09-882375** **Co-pending Application**
18. A computer networking device for use on a computer network to improve data transfer, the	18. A computer networking device for use on a computer network to improve data transfer,

computer networking device being positioned intermediate **plural clients** and a server, the clients and server being configured to communicate via the computer network using HTTP communication protocol, the computer networking device comprising: an HTTP multiplexor/demultiplexor configured to receive HTTP requests from the clients via a plurality of client TCP connections and to monitor a plurality of server TCP connections to the server, wherein the HTTP multiplexor/demultiplexor includes a plurality of agents, each agent assigned to a different one of the client TCP connections, and wherein upon receiving an HTTP request from the client, the respective agent selects one of the plurality of server TCP connections based on the monitoring of the server TCP connections and routes the HTTP request to the selected server TCP connection for communication to the server, the computer networking device being further configured to receive HTTP responses from the server and route the received HTTP responses to a corresponding one of the clients.	positioned intermediate a client and a server, the client and server being configured to communicate via the computer network using HTTP communication protocol, the computer networking device comprising, an HTTP multiplexor/demultiplexor configured to receive HTTP requests from the client and to send the HTTP requests to a plurality of sockets on the server, and further configured to receive HTTP responses from the plurality of sockets on the server and to send the HTTP responses to the client.

Co-pending application anticipates all limitations of claim 18 of the instant application, the plurality of TCP connections anticipates an individual TCP connection to a server socket. As for plurality of clients connecting with a server system, Susai discloses a plurality of clients connecting with a singular server farm for the advantages of data access and efficiency through load balancing, and the corresponding results are routed back to the appropriate originating client. Multiplexing is realized in Sridhar, wherein the plurality of requests are multiplexed together to reduce overhead thereby reducing latency (see for example, Col. 5, lines 15-20), thus it would have been obvious to implement the instant application in view of Co-pending application, Susai, and Sridhar.

09-975522 Instant Application	**09-882375 Co-pending Application**
20. The device of claim 19, wherein the server TCP connections are persistent.	20. The device of claim 19, wherein the TCP connections are persistent.

Co-pending application anticipates all limitations of claim 20 of the instant application.

09-975522 Instant Application	**09-882375 Co-pending Application**
21. The device of claim 18, wherein the HTTP multiplexor/demultiplexor is further configured to determine an optimal server socket for receiving the HTTP requests by identifying the server TCP connection having the least-lengthy response time based on the monitoring.	21. The device of claim 18, wherein the HTTP multiplexor/demultiplexor is further configured to determine an optimal server socket for each HTTP request.

Co-pending application anticipates all limitations of claim 21 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application
22. A computer networking system for use with a computer network, the system comprising: a server; **plural clients** configured to connect to the server system via the computer network; and a computer networking device positioned intermediate the server system and the clients on the computer network; wherein the computer networking device is configured to monitor a plurality of server TCP connections from the computer networking device to the server, and wherein the computer network device comprises includes a plurality of agents, each agent assigned to a different one of a plurality of client TCP connections from the computing networking device to the clients, and wherein the agents receive HTTP requests from the clients and to distribute those requests via **multiplexed** transmission over the server TCP connections to a server socket on the server system selected based on response parameters determined by monitoring the server TCP connections.	23. A computer networking system for use with a computer network, the system comprising: a server; a client configured to connect to the server via the computer network; and a computer networking device positioned intermediate the server and the client on the computer network; wherein the computer networking device is configured to receive HTTP requests from the client and to distribute those requests over a plurality of TCP connections to a plurality of corresponding sockets on the server.

Co-pending application claim 23 anticipates all limitations of claim 22 of the instant application, the plurality of TCP connections anticipates an individual TCP connection to a server socket. As for plurality

of clients connecting with a server system, Susai discloses a plurality of clients connecting with a singular server farm for the advantages of data access and efficiency through load balancing, and the corresponding results are routed back to the appropriate originating client. Multiplexing is realized in Sridhar, wherein the plurality of requests are multiplexed together to reduce overhead thereby reducing latency (see for example, Col. 5, lines 15-20), thus it would have been obvious to implement the instant application in view of Co-pending application, Susai, and Sridhar.

09-975522 Instant Application	09-882375 Co-pending Application
23. The computer networking system of claim 22, wherein the computer networking device is further configured to receive HTTP responses from the server system, **demultiplex** the responses, and route the demultiplexed responses to corresponding clients via a **plurality of client** TCP connections.	24. The computer networking system of claim 23, wherein the computer networking device is further configured to receive HTTP responses from the server over a plurality of TCP connections and to route those responses to the client via a single TCP connection.

Co-pending application claim 24 anticipates all limitations of claim 23 of the instant application, the plurality of TCP connections anticipates an individual TCP connection to a server socket. As for plurality of clients connecting with a server system, Susai discloses a plurality of clients connecting with a singular server farm for the advantages of data access and efficiency through load balancing, and the corresponding results are routed back to the appropriate originating client. Demultiplexing is realized as server send responses to corresponding clients. Thus it would have been obvious to implement the instant application in view of Co-pending application, Susai, and Sridhar.

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Instant Application	Co-pending Application
24. A computer networking device for improving data transfer via a computer network, the device being configured to monitor a plurality of persistent server socket connections from a computer networking device to a server to determine a response parameter for each of the server TCP connections, receive HTTP requests from a client, determine an optimal one of the server sockets for each HTTP request based on the respective response parameters for each of the server sockets, and to send each HTTP request to the determined optimal server socket for the request via a multiplexed TCP transmission.	25. A computer networking device for improving data transfer via a computer network, the device being configured to receive HTTP requests from a client, to determine an optimal server socket for each HTTP requests, and to send each HTTP request to the determined optimal server socket for the request.

Co-pending application claim 25 anticipates all limitations of claim 24 of the instant application.

09-975522 Instant Application	09-882375 Co-pending Application
25. The device of claim 24, wherein the device is further configured to receive an HTTP response from the optimal server socket and to send the HTTP response to the client.	26. The device of claim 25, wherein the device is further configured to receive an HTTP response from the optimal server socket and to send the HTTP response to the client.

Co-pending application claim 26 anticipates all limitations of claim 25 of the instant application.

Claim Objections

Claims 10-12 and 20 are objected to because of the following informalities: the proper dependency of the above claim set is unclear after cancellation of claims 9 and 19. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, 5-7, 11-18, 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Susai et al. (hereinafter Susai), US 2002/0059428, in view of Sridhar et al. (hereinafter Sridhar), US 6,266,701, further in view of Savitzky et al. (hereinafter Savitzky), US 6,012,083.

6. As per claim 1, Susai teaches a computer networking device (Susai, Fig 2, clients C1-C3) for use on a computer network connecting a plurality of clients with a server (Susai, Fig 2, Server S1, S2, S3; [0069], where the servers creates a logical entity 'server farm', which provides at least the functionally equivalent processing capabilities as a single server, for the purpose of examination, the examiner will interpret 'server farm' as a single logical server), the clients and server system being configured to communicate using Hypertext Transfer Protocol (HTTP) (Susai, [0038]), the computer networking device comprising:

an HTTP multiplexor/demultiplexor configured to receive HTTP requests from the plurality of the clients via a plurality of client TCP connections and to monitor a plurality of server TCP connections to the server (Susai, Fig 2, Interface Unit 202; pg 3, [0045], [0046], wherein there are at least two clients

communicating with the same server S; [0069], [0093-0096], where the Interface Unit monitors the server load and route the client request based upon the load of the server, i.e. policies),

wherein upon receiving an HTTP request from the client, the respective agent selects one of the plurality of server TCP connections based on the monitoring of the server TCP connections and routes the HTTP request to the selected server TCP connection for communication to the server over a corresponding connection on the server as a multiplexed HTTP request ([0069], [0093-0096], where the Interface Unit monitors the server load and route the client request based upon the load of the server, i.e. policies).

However, Susai does not explicitly say socket on the server system.

In a similar system, Sridhar teaches distribute those requests over an individual server TCP connection to a corresponding socket on the server (Sridhar, Col. 6, lines 3-15; Col. 23, lines 45-55, for the advantages in reducing overhead and reducing latency, see for example, Col. 5, lines 15-20.

It would have been obvious to one of ordinary skill in this art at the time of invention was made to incorporate the teaching of Sridhar with Susai because the combination would improve the latency for Susai's system by multiplexing streams together to reduce overhead (Sridhar, Col. 5, lines 15-20). Note, it is implicitly implied by the reference that a single stream takes up less bandwidth than a multiplexed stream going from server to the respective client.

Susai does not explicitly teach the HTTP multiplexor/demultiplexor includes a plurality of agents, each agent assigned to a different one of the client TCP connections

However, Savitzky teaches the HTTP multiplexor/demultiplexor includes a plurality of agents, each agent assigned to a different one of the client TCP connections (In light of applicant's specification, agents are 'entities' that exist in multiplexor/demultiplexor that are routing the information to and from the server side to the client side, see applicant's specification, pg 12, line 20 – pg 13, line 11. Savitzky teaches the agent aspect because the agency 10 with plurality of agents is able to handle multiple requests

from multiple client, see Savitzky, Col. 1, lines 10-20; Col. 3, lines 34-36, lines 54-59; Col. 5, lines 52-55; Col. 6, lines 5-10; Col. 8, lines 45-50; Col. 10, lines 23-26, lines 40-46).

It would have been obvious to one of ordinary skill in this art at the time of invention was made to incorporate the teaching of Savitzky with Susai because the combination would improve the latency for Susai's system by reducing the processing loads on the server and the client side with an independent agency system (Savitzky, Col. 3, lines 1-7).

7. As per claim 2, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 1 above, including the multiplexor/demultiplexor is further configured to receive multiplexed HTTP responses from the server over the individual server TCP connection and to route those responses to the clients via a plurality of client TCP connections (Sridhar, Col. 6, lines 5-15, for the advantages giving appropriate responses to the correct client; Col. 22, lines 15-20).

8. As per claim 3, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 1 above, including a computer networking method for processing HTTP requests, comprising:

monitoring a plurality of connections from a computer networking device to a server to determine a response parameter for each of the server TCP connections (Susai, [0069], [0093-0096], where the Interface Unit monitors the server load and route the client request based upon the load of the server, i.e. policies, load of the server is an example of the response parameter monitored by the Interface Unit 202);

receiving HTTP requests from a plurality of originating clients (Susai, Fig 2; pg 3, [0045-0046]);

selecting one of the server TCP connections based on the determined response parameter (Susai, [0069], [0093-0096], where the Interface Unit monitors the server load and route the client request based upon the load of the server, i.e. policies, load of the server is an example of the response parameter monitored by the Interface Unit 202); and

routing the HTTP requests to an individual socket on a server system via a multiplexed TCP

transmission using the selected server TCP connection (Sridhar, Col. 6, lines 3-15; Col. 23, lines 45-55 for the advantages in reducing overhead and reducing latency, see for example, Col. 5, lines 15-20).

9. As per claim 5, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 3 above, including:

receiving HTTP responses from the server via the individual server TCP connection (Susai, Fig 2; pg 3, [0038], [0045])

selectively routing the HTTP responses to the plurality of originating clients (Sridhar, Col. 6, lines 5-15; Col. 15, lines 1-13; Col. 16, lines 4-5, wherein the demultiplexing entails the appropriate routing to the corresponding client destinations for the advantages of latency).

10. As per claim 6, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 1 above, including a computer networking method for data transfer between plural originating clients, a server system, and a networking device positioned on a computer network intermediate the clients and the server system, the method comprising:

at the networking device,

monitoring a plurality of server TCP connections from a computer networking device to a server to determine a response parameter for each of the server TCP connections (Susai, [0069], [0093-0096], where the Interface Unit monitors the server load and route the client request based upon the load of the server, i.e. policies, load of the server is an example of the response parameter monitored by the Interface Unit 202);

listening for HTTP requests from the originating clients (Susai, Fig 2, wherein the servers are listening to client requests; pg 3, [0038]);

receiving HTTP requests from more than one of the originating clients (Susai, Fig 2, wherein the servers are listening to client requests; pg 3, [0038]);

selecting one of the server TCP connections based on the determined response parameter (Susai, [0069], [0093-0096], where the Interface Unit monitors the server load and route the client request based upon the load of the server, i.e. policies, load of the server is an example of the response parameter monitored by the Interface Unit 202);

multiplexing the received requests for delivery to the server via the selected server TCP connection (Susai, [0042-0043]); and

sending received requests via the selected server TCP connection to an optimal server socket selected based on the determined response parameter (Sridhar, see for example, Col. 6, lines 3-15, for the advantages in reducing overhead and reducing latency (Col. 15, lines 1-15; Col. 20, lines 15-30; Col. 23, lines 1-10; wherein the determination of optimized socket occurs for example, by previously accessed socket is re-accessed, or based on utilization of remote server(s), wherein the utilization is determined when no response is obtained from said server(s)).

11. As per claim 7, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 6 above, including receiving HTTP requests from the originating clients occurs via client TCP connections (Susai, pg 3, [0038]).

12. As per claim 11, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 6 above, including the response parameter comprises a last-accessed server socket (Sridhar, see for example, Col. 20, lines 15-30, wherein the last accessed connection can be used in order to save resources).

13. As per claim 12, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 6 above, including the response parameter comprises fewest number of unfulfilled requests (Sridhar, Col. 23, lines 5-10, wherein response determines if the server is busy or the utilization of the server, thus optimal server is selected and routing further proceeds based upon this limitation).

14. As per claim 13, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 6 above, including listening for multiplexed HTTP responses from the optimal server socket (Sridhar, Col. 15, lines 45-50, lines 65-67; Col. 20, lines 16-30).

15. As per claim 14, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 13 above, including receiving HTTP responses from the optimal server socket (Sridhar, Col. 16, lines 1-2; Col. 20, lines 15-40).

16. As per claim 15, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 14 above, including demultiplexing the received HTTP responses to permit selective routing and transmission of the received responses to corresponding originating clients (Sridhar, Col. 6, lines 5-15, for the advantages giving appropriate responses to the correct client).

17. As per claim 16, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 15above, including sending the HTTP responses to the corresponding originating clients (Susai, pg 3, [0038], [0042], [0045-0046]).

18. As per claim 17, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 1 above, including a computer networking method for data transfer between plural originating clients, a server system and an intermediate networking device, wherein the originating clients and the server system are configured to communicate over a computer network via the intermediate networking device, the method comprising:

at the intermediate networking device, listening for HTTP requests from the originating clients (Susai, Fig 2, pg 3, [0038]; [0042-0043]);

the remainder of claim 17 is rejected for the same reasons as rejection to claims 1, 3, 6, 16 above.

19. As per claim 18, the claim is rejected for the same reasons as rejection to claim 1 above, in addition, Susai teaches the computer networking device being further configured to receive HTTP responses from the server and route the received HTTP responses to a corresponding one of the clients (Susai, [0042-0043]).

20. As per claim 22, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim 1 above, including a computer networking system for use with a computer network, the system comprising:

a server system (Susai, Fig 2, S1-S3);

plural clients configured to connect to the server system via the computer network (Susai, Fig 2, C1-C3); and

a computer networking device positioned intermediate the server system and the clients on the computer network (Susai, Fig 2, item 202);

the remainder of claim 22 is rejected for the same reasons as rejection to claim 1 above.

21. As per claim 23, claim 23 is rejected for the same reasons as rejection to claim 2 above.

22. As per claim 24, claim 24 is rejected for the same reasons as rejection to claim 6 above.

23. As per claim 25, claim 25 is rejected for the same reasons as rejection to claim 6 and 14 above.

24. Claims 4, 10, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable by Susai – Sridhar – Savitzky, as applied to claims 1, 6 and 18 above, further in view of Bommareddy et al. (hereinafter Bommareddy), US 6,779,039.

25. As per claim 4, Susai – Sridhar – Savitzky disclose the invention substantially as rejected in claim

1 above, including the requests are routed based on a parameter selected from the group consisting of last-accessed socket, type of requested data, and size of requested data (Susai, see for example, pg 3, [0041], wherein NAT covers last accessed port, type of data and size of data).

fewest number of unfulfilled requests (Sridhar, see for example, Col. 20, lines 15-30, Col. 23, lines 5-10)

However, Susai – Sridhar – Savitzky do not explicitly teach least-lengthy response time.

In a similar system, Bommareddy teaches least-lengthy response time (Bommareddy, Col. 17, lines 40-60).

It would have been obvious to one of ordinary skill in this art at the time of invention was made to incorporate the teaching of Bommareddy with Susai – Sridhar – Savitzky, because the combination would provide for additional routing functionality for Susai – Sridhar – Savitzky's system by improving the monitoring and load balancing abilities of the network (Bommareddy, Col. 17, lines 55-65).

26. As per claims 10 and 21, the claims are rejected for the same reasons as rejection to claim 4 above.

27. Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Susai – Sridhar – Savitzky, as applied to claims 6 and 18 above, in view of RFC 2616, Fielding et al. (hereinafter Fielding), 1999.

28. As per claims 8 and 20, Susai – Sridhar – Savitzky do not explicitly say wherein the client and server TCP connections are persistent.

In a similar system, Fielding teaches the TCP connection can be persistent oriented in order to reduce network congestion by reducing the number of packets caused by TCP opens, and by allowing TCP sufficient time to determine the congestion state of the network (Fielding, 8 Connections, "Persistent HTTP connections have a number of advantages:").

It would have been obvious to the person of ordinary skill in the art at the time of the invention to incorporate Fielding with Susai – Sridhar – Savitzky because the combination would enhance the capabilities of Susai – Sridhar – Savitzky to allow for reduced network congestion.

Response to Arguments

29. Applicant's remarks filed 11/15/2005 have been considered but are found not persuasive.

30. In the remark, the applicant argued in substance:

a) Susai - Sridhar do not teach an HTTP multiplexor/demultiplexor configured to monitor a plurality of server TCP connections to an individual server.

b) Susai - Sridhar do not teach an HTTP multiplexor/demultiplexor that includes a plurality of agents, each agent assigned to a different one of the client TCP connections, wherein upon receiving an HTTP request from the client, the respective agent selects one of the plurality server TCP connections based the monitoring of the server TCP connections and routes the http request to the selected server TCP connection for communication to the server.

c) Susai - Sridhar do not teach monitoring individual sockets to determine a response parameter for each socket, and further selecting one of the server TCP connections based on the determined response parameter.

In response to Applicant's arguments:

a) Susai teaches a computer networking device (Susai, Fig 2, clients C1-C3) for use on a computer network connecting a plurality of clients with a server (Susai, Fig 2, Server S1, S2, S3; [0069], where the servers creates a logical entity 'server farm', which provides at least the functionally equivalent processing capabilities as a single server, for the purpose of examination, the examiner will

interpret 'server farm' as a single logical server), the clients and server system being configured to communicate using Hypertext Transfer Protocol (HTTP) (Susai, [0038])

b) In light of applicant's specification, agents are 'entities' that exist in multiplexor / demultiplexor that are routing the information to and from the server side to the client side, see applicant's specification, pg 12, line 20 – pg 13, line 11. Savitzky teaches the agent aspect because the agency 10 with plurality of agents is able to handle multiple requests from multiple client, see Savitzky, Col. 1, lines 10-20; Col. 3, lines 34-36, lines 54-59; Col. 5, lines 52-55; Col. 6, lines 5-10; Col. 8, lines 45-50; Col. 10, lines 23-26, lines 40-46). It would have been obvious to one of ordinary skill in this art at the time of invention was made to incorporate the teaching of Savitzky with Susai because the combination would improve the latency for Susai's system by reducing the processing loads on the server and the client side with an independent agency system (Savitzky, Col. 3, lines 1-7).

c) Susai – Sridhar disclose monitoring a plurality of connections from a computer networking device to a server to determine a response parameter for each of the server TCP connections (Susai, [0069], [0093-0096], where the Interface Unit monitors the server load and route the client request based upon the load of the server, i.e. policies, load of the server is an example of the response parameter monitored by the Interface Unit 202);

selecting one of the server TCP connections based on the determined response parameter (Susai, [0069], [0093-0096], where the Interface Unit monitors the server load and route the client request based upon the load of the server, i.e. policies, load of the server is an example of the response parameter monitored by the Interface Unit 202); and

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "HTTP MULTIPLEXOR/DEMULTIPLEXOR".

i.	US 6779017	Lamberton et al.
ii.	US 6266707	Boden et al.
iii.	US 6754621	Cunningham et al.
iv.	US 5826261	Spencer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Zhong whose telephone number is (571)272-3946. The examiner can normally be reached on M-F 7:15 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAROENCHONWANIT, BUNJOB can be reached on (571)272-3913. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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CZ
January 5, 2006

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